SUBJECT INDEX TO VOLUME 1

Acetylcholine iodide 172
Acetylcholine perchlorate 172
Adenosine triphosphate 225, 236, 238
Air sampling 50, 64, 65, 74, 75, 79, 80, 82
Aldrin (HHDN)
  induction of epoxidase activity in flies by PBCs 182 ff.
  inhibition of epoxidation in fish 112 ff.
  metabolism 224
  photolysis 159 ff.
  toxicity affected by diquat 112, 115, 118
Aldrindiol, *cis-* and *trans-* 224, 225, 229, 230, 233, 235, 237, 241
n-Alkane 196, 199, 202, 205
  GC of 200
Alkylmercurial pesticides 347 ff.
p-Aminobenzoate in rates fed PCBs 275, 276
δ-Aminolevulinic acid (ALA) synthetase 37, 40, 45
Aminoparathion, in Chlorella cultures 95
  in soil 84, 94
p-Aminophenol, in rats fed PCBs 41, 275
  in soil 94
Aniline hydroxylase in rats 249, 252, 277

Bipyridylium herbicides 112, 113, 119
  see also diquat, paraquat
4-Bromo-2, 5-dichlorophenol
  as metabolite of leptophos 133, 137, 141
  in cotton leaf 141, 144
  in mouse 138, 139
  mass spectral data 134, 135, 137
  TLC 136, 137
O-(4-bromo-2,5-dichlorophenyl) *O*-methyl phenylphosphonothioate, see leptophos
O-(4-bromo-2, 5-dichlorophenyl) phenyl phosphonic acid 139
Bromophos, metabolism in mice 142
Busulfan, in mixture with hempa 149, 151, 154

Carbaryl, sublethal dosage detn 365
  feeding study on bees 365-367, 371
  LC_{50} in bees 367
  lethal effect *vs.* residues in bees 369
  residues in bees, bee bread, honey 371-372
  stability in honey 372
  toxicity to fish affected by diquat 112, 115, 118, 119
Cholesterol in rat liver, affected by PCBs 265, 266, 277
Cholinesterase (ChE) activity in humans
  after exposure to parathion and methyl parathion 50, 53, 56-58
  after exposure to an organophosphate pesticide 170, 173, 175, 177, 179
Cl_3DB*p*D (2, 3, 7-trichlorodibenzo-*p*-dioxin
  in living mice 122-123
  in mammalian liver 122-123
  TLC and GLC 124, 125, 129
Cl_4-DB*p*D (2, 3, 7, 8-tetrachlorodibenzo-*p*-dioxin)
  in living mice 129 ff.
  in mammalian liver 122 ff.
  TLC and GLC 123-125
Cytochrome P-450, effect of mirex on 246, 250-252

2, 4-D, preparation of esters 376
DDD in treated rats 15
  administration to mice and guinea pigs 188
DDT 160, 166, 168, 182, 188, 189
  effect on reproduction of mammals 15
  enzyme activity in Japanese quail 45
  enzyme activity in mice 245
  enzyme activity in quail and chicken 250
  equilibrium concentration between mussel and water 105
  GLC of 99, 100
  in distilled water 109
  in distilled water containing Ca^{++} 110
  in lake and tap water 100, 109
  in mussels 97 ff.
  recovery from soil 90
  residues in cowbirds 10
  residues in earthworms 11
  residues in goldfish 104
  residues in hares 2
  residues in mice 2
  residues in mink 2, 15
  residues in mussel 106-108
  residues in rats 10
  residues in shrews 1 ff.
  residues in slugs 11
  residues in vole 2
  TLC of 99, 100
  toxicity affected by diquat 112, 115, 118
  uptake by shrews 3, 10, 13
Delnav, see dioxathion
Dibenzo-*p*-dioxin, conversion by microsome-NADPH-systems 122, 123, 127-131
Dicamba, extraction and analysis 291
  free acid 292-293
  pH effect 292-293
  salts 292-293
  thermal loss 292-293
  uv irradiation 290-291

uv loss 294-295
2, 7-Dichlorodibenzo-*p*-dioxin (Cl_2-DB*p*D) 124
4,4'-Dichlorobenzophenone (DBP)
residues in apple pomace 283-287
toxicity 283
Dicofol, residues in apple pomace 281 ff.
toxicity 283
Dieldrin, by epoxidation of aldrin 112 ff.
effect on mallard ducks 303 ff.
GLC and TLC of 99, 100, 184
in diet of ducks 305
in lake water 100, 103
in mussels 97 ff.
in tap water 100
light-wavelength discrimination by ducks 303, 304, 306, 309
metabolism in cockroaches and houseflies 224 ff.
photolysis of 159 ff.
residues in duck brain 309
DNA 265, 271, 274
Dioxathion, degradation of 79
in particulate matter and soil 60 ff.
on orange trees 60 ff.
Diphenylmercury, by metabolism 18
Diquat, combination with zectran 119
in goldfish and catfish 117
inhibition by, of aldrin epoxidation in fish 112 ff.
potentiation of carbaryl toxicity to fish 118, 119

Endrin,
dose/toxicity relationship in deermice 15
Ethylmercuric chloride (EMC), in aquatic organisms 18, 20-22
in rats 347 ff.
Ethyl parathion, see parathion

Formaldehyde, formed in mirex-fed rats 251
formed in PCB-fed rats 275, 276

Gas chromatography of
aldrin and dieldrin 114
chlorinated insecticides 160
chlorodibenzodioxins 124-130
DDT and dieldrin 99, 100
dicofol 283
dioxathion 64
hempa and metabolites 150-152
leptophos 145
mirex 247, 257, 258
MMC, EMC 22
organic matter 193 ff.
organophosphate pesticides 172
parathion and aminoparathion 50, 51
PCBs 27, 31-34
PMA 19, 20
TCBs 37
β-glucoronidase/aryl sulfatase 136, 139
Glucose-6-phosphate (G-6-P) 225, 236, 238, 272-276
Glutathion (GSH) 225, 238
Guthion, in cotton 53

Half-life of DDT in goldfish 104
DDT in mussels 104
dieldrin in mussels 102, 104
dioxathion on orange leaves 78, 79, 81
mercury in aquatic organisms 18, 19
PMA in aquatic organisms 19
Hempa (hexamethylphosphoric triamide)
in boll weevils 148 ff.
in mixture with busulfan 149, 151, 154
liquid scintillation counting 151
TLC and GLC 149-152
toxicity to mammals 148, 155
Heneicosadiene 202
n-Heneicosane 202
Heneicosene 202
Heptachlor, photolysis of 159 ff.
Herbicides, concentration effect on loss 297
thermal loss 289, 290, 292-293
uv loss 289, 294-295

Isodrin toxicity and metabolism 159 ff.

Kelthane, see dicofol

Lanostane, in San Francisco Bay water 198, 199, 202, 203, 205
Lead, by atomic absorption 214
in air 221
in grass 210
in humans 209, 221
in soil 209 ff.
Lead bromochloride 210
Leptophos, GLC of 145
in cotton plants 133, 137 ff.
in mice 133 ff.
mass spectral data 134, 135, 137
phenyl-^{14}C-labeled 134, 135, 138-142
TLC of 134-139
Leptophos oxon, as metabolite 133, 137, 143
mass spectral data 134, 135, 137
in cotton leaf 141, 144, 145
in mouse 139, 140
TLC of 136, 137
Lindane, elimination from fish 104
recovery from soil 90
vapor pressure of 87

Mercury, biological half-life 18, 19

blood-tissue ratios in rats 355, 358
conversion to, from EMC in rats 355, 359, 360
determination 349
in organs and tissues 349-351, 355
rate of uptake in rats 351
relationship of vapor concentration to tissue concentration 350, 351, 352, 353
time effect on concentration 356, 357
tissue distribution for respiratory *vs.* oral uptake 358
uptake by aquatic organisms 20-22
Mercury vapor, pulmonary uptake 347, 348, 355
Methyl mercury, uptake in aquatic organisms 20-22
Methyl paraoxon, residues in cotton 52, 54, 55
Methyl parathion, exposure of humans in treated cotton fields 48 ff.
in soil 94
O-Methyl phenylphosphonic acid
as metabolite of leptophos 133, 137, 143
in cotton leaf 141, 142, 145
in mouse 138, 139, 140
mass spectral data 134, 135, 137
TLC 136, 137
O-Methylphenylphosphonothioic acid .
as metabolite 133, 137, 143
in cotton leaves 141, 142, 145
in mouse 138-140
mass spectral data 134, 135, 137
TLC 136, 137
Microorganisms, in soil 85, 87, 94, 95
Microsomal oxidase, activity in mammals 126
activity in house flies 182 ff.
activity in rats 235
in bollweevils (metabolism of hempa) 154
in fish (effect of diquat on) 112 ff.
in mice (metabolism of leptophos) 143
in rat (effect of mirex on) 245 ff.
Microsome-NADPH-system 122, 123, 126, 128 129
Microsomes, of cockroaches 227
of house flies 238
of rats 236, 265 ff.
Mirex, effect on oxidases in rats 245 ff.
microsomal hydrolysis activity 45
solubility in water 256
toxicity 245, 247, 259
uptake in aquatic organisms 255 ff.

NADPH systems 116, 122, 123, 126-129, 184
$NADPH_2$ 225, 236, 238
1-Naphthol, determination of 363
1-Naphthyl glucuronide, in rats 43, 252
Nicotinamide 225, 238
p-Nitroanisole, demethylation in rats 245-247, 250, 251
p-Nitrophenol, in humans 48-50, 56-58
in rats fed mirex 250
in rats fed PCBs 40, 42, 275, 276
in soil from parathion 94
p-Nitrophenyl dimethyl carbamate 126

Occupational health studies 36, 48 ff., 58
Organic matter 210
analysis by mass spectrometry and GC 193 ff.
Organophosphate pesticides (also see individual compounds)
residues on cotton in Mississippi 49
resistance to 190
safe reentry time calculation 170 ff.

Paraquat 112, 113
Parathion, absorption by humans 56-58
analysis by ChE 49, 50, 56-58
analysis by colorimetry 86, 87, 94
analysis by GLC 51, 86, 87, 94
degradation in soil 91-93
exposure of humans in cotton fields 48 ff.
hydrolysis in soil 92, 95
hydrolysis in water 92
microbial degradation in soil 84, 85, 87, 95
persistence in soil 84 ff.
photodecomposition 87
solubility in water 94
toxicity affected by diquat 112, 115, 118
vapor pressure of 87
volatilization of 87
Pentacosane 196, 198
Pentamethylphosphoric triamide
as metabolite of hempa 148
GLC and TLC of 151, 152
Phenol, liberation by cleavage of 2, 4, 5-T 378
Phenylmercuric acetate (PMA), uptake and biotransformation in aquatic organisms 18 ff.
Phenylphosphonic acid
as metabolite of leptophos 133, 137, 143
in cotton leaf 141, 142, 145
in mouse 138-140
mass spectral data 134, 135, 137
TLC 136, 137
Photoaldrin, toxicity-metabolism relationship 159 ff.
Photochlordene, toxicity-metabolism relationship 159 ff.
Photodieldrin, metabolite in cockroach 229, 230
toxicity-metabolism relationship 159 ff.
Photodieldrin ketone 161, 165, 166
Photoheptachlor, toxicity-metabolism relationship 159 ff.
Photoisodrin, toxicity-metabolism relationship 159 ff.
Photosynthesis, affected by mirex in aquatic organisms 255 ff.

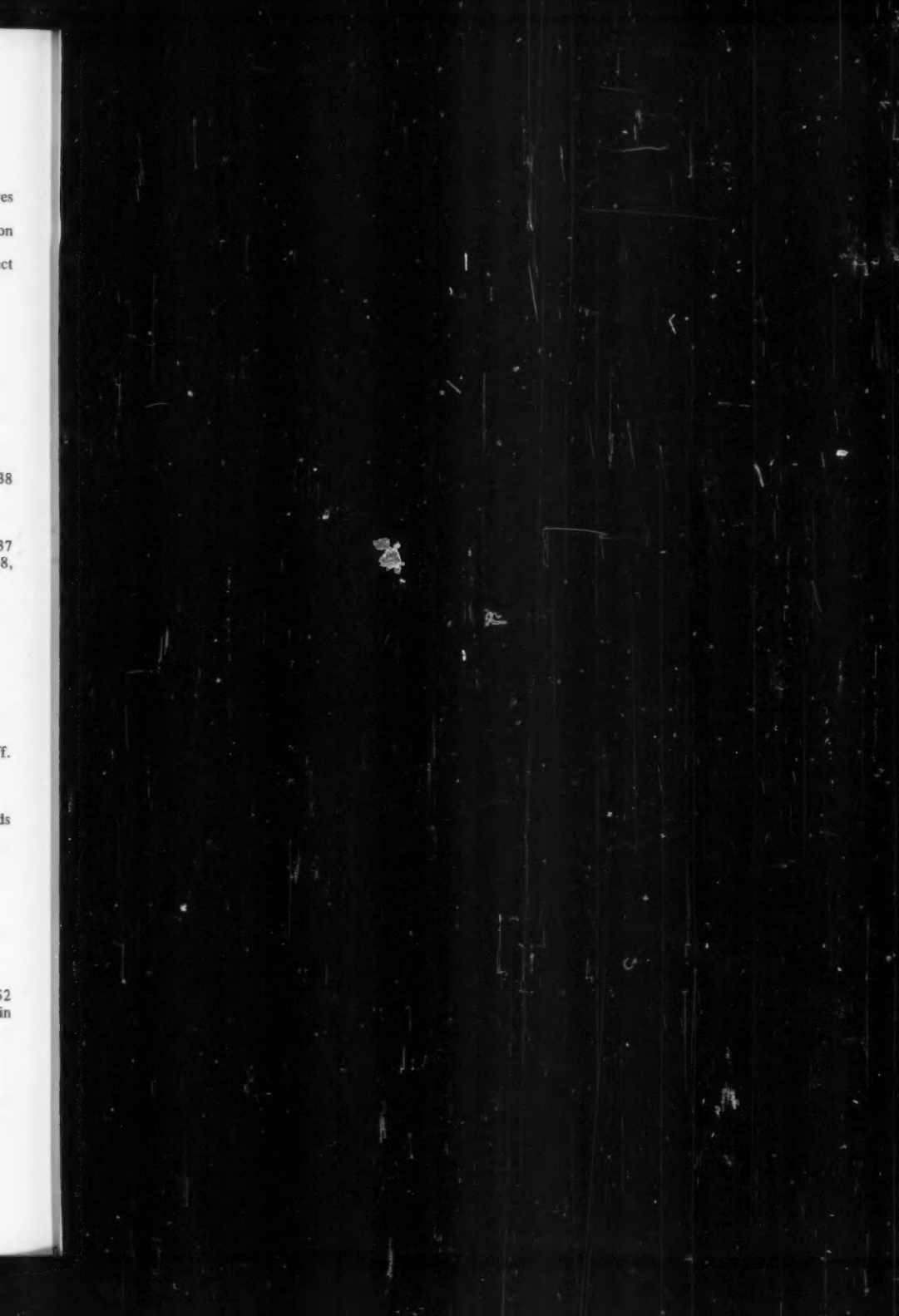
Phthalate esters in San Francisco Bay water 193, 202, 205, 206
Phytoplankton, effect of mirex on 255, 257, 260, 261
in San Francisco Bay water 205
Polychlorinated biphenyls (PCBs)
acute and sublethal toxicity levels in birds 312-313
as inducer of enzyme activity in house flies 182 ff.
assay in eggs 314
correlation of levels in eggs with embryonic viability 320
cumulative character 312
deformity of chicks 312, 319, 321
effects on chick tissues 312, 320, 321
effect on egg production 315
effect on egg shell thickness 315
effect on embryonic development 312, 320
effect on fertility 312, 315-317, 321
effect on hens 312, 321
effect on hepatic oxidases 40
effect on man 273, 276
effect on rat liver 265 ff.
effect on weight of eggs 315
effect on weight of hens 315
embryonic mortality 313, 317, 320, 321
in blood of hens 314
in chickens 276
in chicks 312 ff.
in dogs 278
in eggs 312, 313, 314, 318, 321
in fish and birds 27, 45
in guinea pigs 276
inhibition of mitochondrial electron transport system 320-321
in lake water 100
in man 182
in monkeys 276-278
in rabbits 276
in solid waste 27 ff.
in wildlife 36
levels in dead hens 315
metabolic elimination 321
toxicity to humans 312

Picloram, effect of concentration for free acids and salts 297
extraction and analysis 291
methylation 291
thermal loss 292-293
uv loss 294-296
Potentiation, of insecticides by diquat in fish 112, 113, 118, 120

Reentry, calculation of safe time 170 ff.
Reentry interval, of dioxathion in citrus groves 61, 79
of organophosphate insecticides in cotton 48 ff.
Release rates of biologically active agents, effect of climatic factors 326
of diffusion 326
of microorganisms 326
of slab geometry 327
of spherical geometry 328
Ronnel, metabolism 142
Rotenone 262

Sarin, effect on ChE 177
Scintillation counting of,
^{14}C-aldrin 114, 184
^{14}C-HEOD 184, 226-228, 233, 236, 238
^{3}H-Cl$_4$-DBpD 124, 131
^{3}H-DBpD 124, 131
hempa 151, 153, 156
leptophos and metabolites 134, 135, 137
Sesamex 115, 159, 163, 165, 166, 225, 238, 239
Steranes 196
Steroidal compounds 205
2, 4, 5-T, methylation of 291
preparation of esters 376
thermal loss 292-293
uv loss 294-296

TDE 100
TEPP, effect on ChE 177, 180
Tetrachlorobiphenyl (TCB), effect on rats 36 ff.
Tetramethylphosphoric triamide
as metabolite of hempa 148
TLC and GLC 151, 152
Thioindigo test for monohalogenoacetic acids
in estuarine sediments 375
in mussels 375
in wine 375
Toxaphene, effect on fish 303
on cotton 49, 50
Trimethylphosphoric triamide
as metabolite of hempa 148
TLC and GLC of 151, 152

UDP-glucuronyltransferase in rats 245, 251, 252
UDPGA-1-naphthol glucuronyl transferase in rats 246, 247

WARF 160, 165, 166